

SEQUENCE LISTING

<110> BIOVECTOR THERAPEUTICS
INSERM

5

<120> POLYEPITOPIC PROTEIN FRAGMENTS OF THE E6 PROTEIN
OR E7 OF HPV, THEIR PRODUCTION AND THEIR USE
PARTICULARLY IN VACCINATION

10 <130> WOB EPIT 2

<140>

<141>

15 <150> FR 9907012

<151> 1999-06-03

<160> 18

20 <170> PatentIn Ver. 2.1

<210> 1

<211> 477

<212> ADN

25 <213> Human Papillomavirus

<220>

<221> CDS

<222> (1)..(477)

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Met	His	Gln	Lys	Arg	Thr	Ala	Met	Phe	Gln	Asp	Pro	Gln	Glu	Arg	Pro	
1				5				10						15		

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aga	aag	tta	cca	cag	tta	tgc	aca	gag	ctg	caa	aca	act	ata	cat	gat	96
Arg	Lys	Leu	Pro	Gln	Leu	Cys	Thr	Glu	Leu	Gln	Thr	Thr	Ile	His	Asp	
			20					25					30			

40

ata	ata	tta	gaa	tgt	gtg	tac	tgc	aag	caa	cag	tta	ctg	cga	cgt	gag	144
Ile	Ile	Leu	Glu	Cys	Val	Tyr	Cys	Lys	Gln	Gln	Leu	Leu	Arg	Arg	Glu	
		35					40					45				

45

gta	tat	gac	ttt	gct	ttt	cgg	gat	tta	tgc	ata	gta	tat	aga	gat	ggg	192
Val	Tyr	Asp	Phe	Ala	Phe	Arg	Asp	Leu	Cys	Ile	Val	Tyr	Arg	Asp	Gly	
	50					55					60					

50

aat	cca	tat	gct	gta	tgt	gat	aaa	tgt	tta	aag	ttt	tat	tct	aaa	att	240
Asn	Pro	Tyr	Ala	Val	Cys	Asp	Lys	Cys	Leu	Lys	Phe	Tyr	Ser	Lys	Ile	
	65				70				75						80	

55

agt	gag	tat	aga	cat	tat	tgt	tat	agt	ttg	tat	gga	aca	aca	tta	gaa	288
Ser	Glu	Tyr	Arg	His	Tyr	Cys	Tyr	Ser	Leu	Tyr	Gly	Thr	Thr	Leu	Glu	
				85				90						95		

cag	caa	tac	aac	aaa	ccg	ttg	tgt	gat	ttg	tta	att	agg	tgt	att	aac	336
Gln	Gln	Tyr	Asn	Lys	Pro	Leu	Cys	Asp	Leu	Leu	Ile	Arg	Cys	Ile	Asn	
			100					105							110	

tgt caa aag cca ctg tgt cct gaa gaa aag caa aga cat ctg gac aaa 384
 Cys Gln Lys Pro Leu Cys Pro Glu Glu Lys Gln Arg His Leu Asp Lys
 115 120 125

5

aag caa aga ttc cat aat ata agg ggt cgg tgg acc ggt cga tgt atg 432
 Lys Gln Arg Phe His Asn Ile Arg Gly Arg Trp Thr Gly Arg Cys Met
 130 135 140

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tct tgt tgc aga tca tca aga aca cgt aga gaa acc cag ctg tga 477
 Ser Cys Cys Arg Ser Ser Arg Thr Arg Arg Glu Thr Gln Leu
 145 150 155

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<210> 2
 <211> 158
 <212> PRT
 <213> Human Papillomavirus

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<400> 2
 Met His Gln Lys Arg Thr Ala Met Phe Gln Asp Pro Gln Glu Arg Pro
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Arg Lys Leu Pro Gln Leu Cys Thr Glu Leu Gln Thr Thr Ile His Asp
 20 25 30

Ile Ile Leu Glu Cys Val Tyr Cys Lys Gln Gln Leu Leu Arg Arg Glu
 35 40 45

30

Val Tyr Asp Phe Ala Phe Arg Asp Leu Cys Ile Val Tyr Arg Asp Gly
 50 55 60

Asn Pro Tyr Ala Val Cys Asp Lys Cys Leu Lys Phe Tyr Ser Lys Ile
 65 70 75 80

35

Ser Glu Tyr Arg His Tyr Cys Tyr Ser Leu Tyr Gly Thr Thr Leu Glu
 85 90 95

40

Gln Gln Tyr Asn Lys Pro Leu Cys Asp Leu Leu Ile Arg Cys Ile Asn
 100 105 110

Cys Gln Lys Pro Leu Cys Pro Glu Glu Lys Gln Arg His Leu Asp Lys
 115 120 125

45

Lys Gln Arg Phe His Asn Ile Arg Gly Arg Trp Thr Gly Arg Cys Met
 130 135 140

Ser Cys Cys Arg Ser Ser Arg Thr Arg Arg Glu Thr Gln Leu
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<210> 3
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of the sequence coding for E6 of HPV and corresponding
peptide sequence

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    1             5             10             15

cat gat ata ata tta gaa tgt gtg tac tgc aag caa cag tta   90
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Arg Pro Arg Lys Leu Pro Gln Leu Cys Thr Glu Leu Gln Thr Thr Ile
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30  His Asp Ile Ile Leu Glu Cys Val Tyr Cys Lys Gln Gln Leu
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cga cgt gag gta tat gac ttt gct ttt cgg gat tta tgc ata gta tat   48
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aga gat ggg aat cca tat   66
55  Arg Asp Gly Asn Pro Tyr
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<210> 6

<211> 22

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of the sequence coding for E6 of HPV and corresponding
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10 Arg Arg Glu Val Tyr Asp Phe Ala Phe Arg Asp Leu Cys Ile Val Tyr
1 5 10 15

Arg Asp Gly Asn Pro Tyr
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<210> 7

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att agt gag tat aga cat tat tgt tat agt ttg tat gga aca aca tta 48
Ile Ser Glu Tyr Arg His Tyr Cys Tyr Ser Leu Tyr Gly Thr Thr Leu
1 5 10 15

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gaa cag caa tac aac aaa ccg ttg tgt gat ttg tta att 87
Glu Gln Gln Tyr Asn Lys Pro Leu Cys Asp Leu Leu Ile
20 25

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<210> 8

<211> 29

<212> PRT

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45 <223> Description of the artificial sequence: fragment
of the sequence coding for E6 of HPV and corresponding
peptide sequence

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Glu Gln Gln Tyr Asn Lys Pro Leu Cys Asp Leu Leu Ile
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<210> 9

<211> 66

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<222> (1)..(66)

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Cys Pro Glu Glu Lys Gln Arg His Leu Asp Lys Lys Gln Arg Phe His
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20 aat ata agg ggt cgg tgg 66
Asn Ile Arg Gly Arg Trp
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<210> 10

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<213> Human Papillomavirus

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<222> (1)..(297)

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1 5 10 15

55 cca gag aca act gat ctc tac tgt tat gag caa tta aat gac agc tca 96
Pro Glu Thr Thr Asp Leu Tyr Cys Tyr Glu Gln Leu Asn Asp Ser Ser
20 25 30

gag gag gag gat gaa ata gat ggt cca gct gga caa gca gaa ccg gac 144
Glu Glu Glu Asp Glu Ile Asp Gly Pro Ala Gly Gln Ala Glu Pro Asp

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5	aga gcc cat tac aat att gta acc ttt tgt tgc aag tgt gac tct acg	192		
	Arg Ala His Tyr Asn Ile Val Thr Phe Cys Cys Lys Cys Asp Ser Thr			
	50 55 60			
10	ctt cgg ttg tgc gta caa agc aca cac gta gac att cgt act ttg gaa	240		
	Leu Arg Leu Cys Val Gln Ser Thr His Val Asp Ile Arg Thr Leu Glu			
	65 70 75 80			
15	gac ctg tta atg ggc aca cta gga att gtg tgc ccc atc tgt tct cag	288		
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20	aaa cca taa	297		
	Lys Pro			
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35	Glu Glu Glu Asp Glu Ile Asp Gly Pro Ala Gly Gln Ala Glu Pro Asp			
	35 40 45			
40	Arg Ala His Tyr Asn Ile Val Thr Phe Cys Cys Lys Cys Asp Ser Thr			
	50 55 60			
45	Leu Arg Leu Cys Val Gln Ser Thr His Val Asp Ile Arg Thr Leu Glu			
	65 70 75 80			
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	<222> (1)..(69)			

<400> 13

gga gat aca cct aca ttg cat gaa tat atg tta gat ttg caa cca gag 48
 Gly Asp Thr Pro Thr Leu His Glu Tyr Met Leu Asp Leu Gln Pro Glu

5 1 5 10 15

aca act gat ctc tac tgt tat 69
 Thr Thr Asp Leu Tyr Cys Tyr
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10

<210> 14

<211> 23

<212> PRT

15 <213> Artificial sequence

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Gly Asp Thr Pro Thr Leu His Glu Tyr Met Leu Asp Leu Gln Pro Glu
 1 5 10 15

Thr Thr Asp Leu Tyr Cys Tyr
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25

<210> 15

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40 <222> (1)..(51)

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caa gca gaa ccg gac aga gcc cat tac aat att gta acc ttt tgt tgc 48
 Gln Ala Glu Pro Asp Arg Ala His Tyr Asn Ile Val Thr Phe Cys Cys

45 1 5 10 15

aag 51
 Lys

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<210> 16

<211> 17

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5 Lys

<210> 17

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<222> (1)..(57)

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tct cag aaa

57

Ser Gln Lys

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<210> 18

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<212> PRT

35 <213> Artificial sequence

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 of the sequence coding for E7 of HPV and corresponding
 peptide sequence

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 1 5 10 15

Ser Gln Lys

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